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A PROPOSED LONG-RANGE PLAN FOR OCCUPATIONAL AND VOCATIONAL-TECHNICAL EDUCATION FOR RHODE ISLAND, RHODE ISLAND VOCATIONAL-TECHNICAL EDUCATION DEVELOPMENT PROJECT. PRELIMINARY REPORT.

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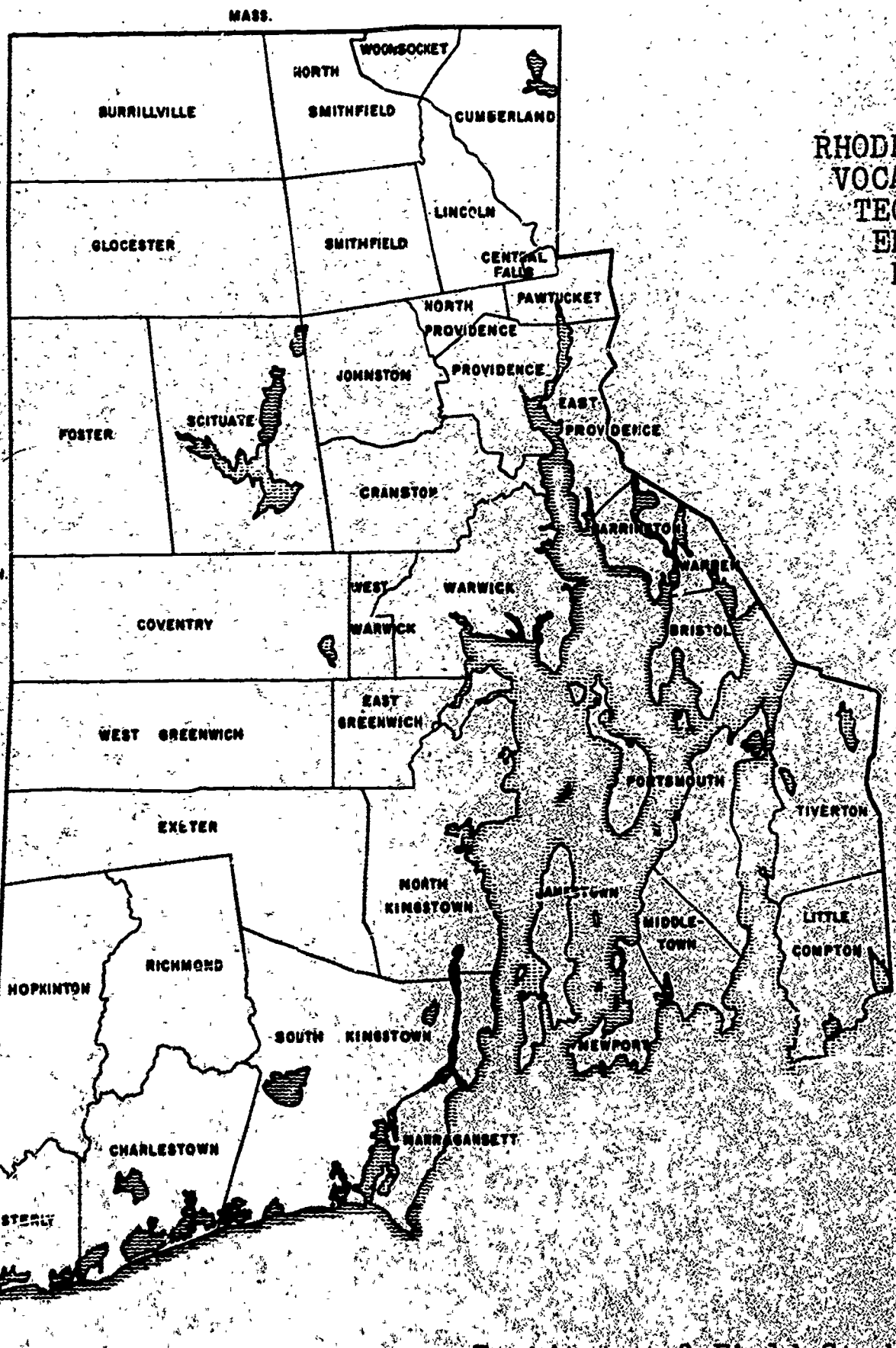
ECONOMIC, EMPLOYMENT, POPULATION, AND SCHOOL INFORMATION WAS ANALYZED AS THE BASIS FOR A PROPOSED LONG-RANGE PLAN FOR OCCUPATIONAL EDUCATION INTENDED TO PROVIDE FOR BOTH IMMEDIATE AND FUTURE STATEWIDE NEEDS, TO MAKE THE BEST USE OF EXISTING FACILITIES, AND TO LEND ITSELF TO RAPID IMPLEMENTATION. THE PLAN DEALS WITH SECONDARY, POST-SECONDARY, AND ADULT OCCUPATIONAL EDUCATION. RECOMMENDATIONS CONCERN (1) ESTABLISHING EXPANDED AND ARTICULATED PROGRAMS AT BOTH SECONDARY AND POST-SECONDARY LEVELS, (2) REVISING THE TRADITIONAL CURRICULUM, (3) RECOGNIZING OCCUPATIONAL EDUCATION AS AN OBJECTIVE OF SECONDARY SCHOOLS EQUAL IN IMPORTANCE TO COLLEGE PREPARATION, (4) ESTABLISHING AREA SCHOOLS, (5) DEVELOPING POST-SECONDARY OCCUPATIONAL PROGRAMS IN EXISTING JUNIOR COLLEGES, (6) UTILIZING DIVERSIFIED PROGRAMS TO SERVE OUT-OF-SCHOOL YOUTH AND ADULTS, AND (7) DEVELOPING A CENTER FOR ADULT EDUCATION, CURRICULUM MATERIALS DEVELOPMENT AND TESTING, AND EDUCATIONAL LEADERSHIP TRAINING AT CORLISS PARK. (EM)

A PROPOSED LONG-RANGE PLAN FOR OCCUPATIONAL AND VOCATIONAL-TECHNICAL EDUCATION FOR RHODE ISLAND

A Preliminary Report March 1965



RHODE ISLAND VOCATIONAL-TECHNICAL EDUCATION DEVELOPMENT PROJECT

Institute of Field Studies
Teachers College, Columbia University
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Rhode Island Vocational-Technical Education Development Project

A PROPOSED LONG-RANGE PLAN FOR OCCUPATIONAL AND VOCATIONAL-TECHNICAL EDUCATION FOR RHODE ISLAND

Preliminary Report,

Prepared by

Institute of Field Studies
Teachers College, Columbia University
New York, New York

March, 1965

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TABLE OF CONTENTS

FOREWORD

The responsibility assigned to the Institute of Field Studies, Teachers College, Columbia University, is to assist the State Department of Education to develop, to implement, and later to evaluate a long-range state-wide plan for expanded and improved occupational and vocational-technical education in Rhode Island.

As of this writing, the consultants have assisted the State Board of Education to screen sites and architects for the mandated Blackstone Valley facility. They have met with superintendents of schools, with officers of the Junior College, with the Board of Trustees of State Colleges, with members of the legislature, with officials of the United States Office of Education, with the Advisory Council on Vocational-Technical Education, and with other citizens groups. They have visited all the public high schools of the State and gathered data from school officials, from the State Department of Education, from the Department of Employment Security, from the Rhode Island Development Council, and from other sources.

As a result of these activities, this report has been prepared as one of a series that will be presented to the State Board of Education by the Institute of Field Studies. It has been preceded by two reports issued in February entitled respectively: Where Should Occupational Education Be Taught At The Secondary Level? and Occupational Education In The Comprehensive High School.

The consultants particularly wish to point out that this is a preliminary report of a proposed long-range plan for the development and improvement of occupational and vocational-technical education in Rhode Island as called for under the contract with the State Board of Education. It is not intended to be a rigid, static plan, complete in all its details and it should not be viewed as such. Its major purpose is to make certain basic recommendations and to develop in general outline a suggested plan for the years to come. Its orientation is to the future. It points out the direction without describing the last step. It does not attempt complete documentation of positions and facts; nor does it spell out all administrative, operational, or financial details necessary to implement the plan. A number of the problems to be faced when putting the plan into action during the next few years are involved and complex and will require further study and skillful management by the State Board and its staff and consultants.

Other reports of the series will supplement this one and are now in preparation or planned for the near future. They will deal with such subjects as national and state trends in vocational-technical education, the characteristics of Rhode Island's population and economy, projections of school enrollment, occupational and vocational-technical educational programs and facilities, and suggested programs for secondary and post-secondary schools.

In addition to this series of reports, the Institute of Field Studies, recognizing the importance of a vocational-technical facility to serve the Blackstone Valley area, will continue its efforts to expedite the construction of this facility at the earliest possible date.

The consultants wish to express appreciation to the staff members of the State Department of Education, the many State and local officials and the large number of lay and professional persons who gave so generously of their time and effort during the study. This appreciation extends to the critics of the proposed long-range plan who by their diverse point of view forced a more careful evaluation of all proposals.

I. RHODE ISLAND'S NEED FOR OCCUPATIONAL and VOCATIONAL-TECHNICAL EDUCATION

The growth and direction of the national economy is creating a technological revolution which dwarfs the industrial revolution in the implications of its social consequences. Mechanization, automation, cybernetics are requisite to an increased gross national product, to better standards of living and to retaining the industrial supremacy of the United States. At the same time, the dislocations in the lives of large segments of people who make up the labor force create a national problem.

There are three basic changes in occupational patterns just ahead of us which have far-reaching consequences.

The first is that the need for unskilled labor in our economy is declining rapidly. Machines are replacing muscles. In 1930, 25 per cent of our labor force was unskilled; in 1965, only 5 per cent was unskilled. Herein lies a major reason for the human tragedy of one-fifth of our population living in poverty during an era of economic affluence.

The second is the converse of the first. Jobs and occupations that will require larger segments of the labor force uniformly require higher degrees of skill, training, and education. The most striking example is in the area of professional and technical occupations. Engineers, scientists, teachers, doctors, dentists and other professional workers plus the technicians who support them are in short supply. It is estimated that these groups must increase twice as fast as employment as a whole between now and 1975. At a lower level the expanding clerical, sales and service occupations continually require higher degrees of skill and training. In the face of these facts jobs go begging for want of qualified personnel while the nation supports approximately 5 per cent of its work force who are unemployed.

The third characteristic of the era that must be faced is the rapidity of change. No longer can a worker trained for a single craft or skill expect to remain competent for a life-time. Occupational obsolescence is the order of the day. New methods and new machines require new understandings and new skills; flexibility, adaptability, and retraining become essentials to a career.

Ewan Clague, Commissioner of the Bureau of Labor Statistics, makes these comments:

> "The effect of occupational shifts will continue to be clearly toward a rising demand for workers with relatively higher levels of education and skill, and a narrowing of employment opportunities for the unskilled. The importance of good educational preparation for employment will also be increased by the rapidly changing nature of our technology and the consequent frequent changes in content in many occupations. Workers will have unprecedented need for occupational flexibility and a good education is the essential upon which a flexible and responsive labor force is built."

Among the more specific yet salient facts documented by the United States Department of Labor are the following: Since 1956 there have been more white-collar than blue-collar workers; this trend will continue. The percentage of women in the labor force is increasing. Unprecedented numbers of young workers will enter the labor force in the next decade. Unemployment rates are highest in the age bracket of 18-25 years. Unemployment is greatest among the less educated segments of the population.

Lynn Emerson, Professor Emeritus of Cornell University and consultant on vocational-technical education to several states including Massachusetts, North Carolina, New York, Texas and Virginia, reports the following observations:

> "Many present jobs will have been eliminated or changed in character; many new ones will have emerged.
>
> The percentage of workers in production will continue to decrease; those in professional and technical jobs will increase considerably; some increase will be noted in the service occupations.
>
> Job entrance qualifications will require higher educational attainment.
>
> Entry age into most occupations will be higher; young persons seeking jobs will be at a greater disadvantage than at present.
>
> Mobility of workers will rise, with labor markets much broader than the local communities. Increasing amounts and kinds of service will be made

available to meet the needs of the aging - medical care, housing, recreation, and the like. Changes in job requirements will become more prevalent, and workers will be desired who have flexibility- the ability to adapt to change. No one will stay educated very long."

The State of Rhode Island faces the same difficulties as the rest of the nation, but it also faces some acute problems peculiar to itself. Although the characteristics and economy of the State are dealt with in another paper, the following basic facts are cause for concern.

Manufacturing employment in the State has shown a marked decline, shrinking from an annual average of 154, 700 employees in 1947 to 115, 200 in 1964. A loss in the textile industry has been largely responsible for this decline, although losses may also be noted in metals and machinery and in jewelry and silverware. The textile industry employed 66, 700 workers in 1947 and only 23, 300 in 1964, a decrease of 43, 400.

Whereas it is commonly recognized that in this era of technology fewer workers produce more goods, Rhode Island's loss in manufacturing employment between 1947 and 1964 compares unfavorably with the nation as a whole and with its neighboring states as shown in Table 1. The data for Rhode Island are illustrated on Chart 1.

Equally interesting is the change in percentage of employment in major occupational groups for the decade 1950-1960 as shown on Chart 2. Comparisons in the group representing Managers and Proprietors and in the group representing Semi-Skilled Operatives are particularly striking. The demands of a changing economy are reflected in the increased percentage change in Professional and Technical people. It is also noteworthy that Clerical and Service Workers are in greater demand. Only in employment in farming does Rhode Island compare favorably with the nation as a whole.

Another cause for concern in Rhode Island is the low average annual income of private non-farm wage and salary workers, excluding those employed in private households. In 1962, these workers in Rhode Island received an annual income of only $4, 375, while the average worker in the United States in the same category received $5, 088, and similar workers in New York and Connecticut were paid an annual wage of $5, 559 and $5, 389 respectively.

The average annual income for these private non-farm wage and salary workers in Connecticut, Massachusetts, New York, Rhode Island, New England, and the United States is shown in Table 2.

TABLE 1

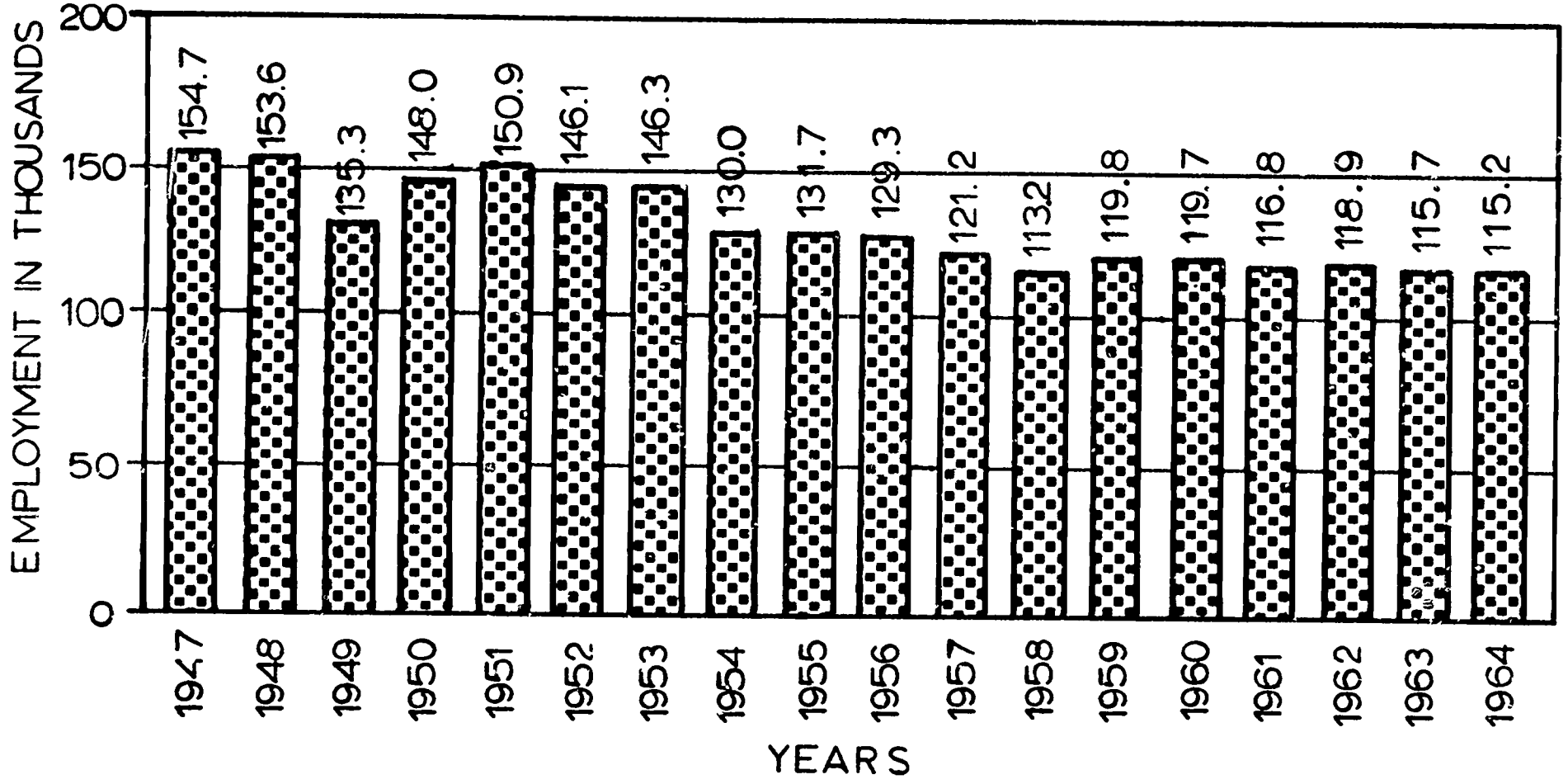
CHANGES IN MANUFACTURING EMPLOYMENT IN THE UNITED STATES, RHODE ISLAND AND NEIGHBORING STATES

1947 - 1964
(In Thousands)

Year	United States	Rhode Island	Massa-chusetts	Connec-ticut	New York
1947	15,545	154.7	730.7	418.6	1,994.3
1948	15,582	153.6	732.6	408.1	1,976.5
1949	14,441	135.3	685.0	354.2	1,853.2
1950	15,241	148.0	715.7	379.9	1,915.8
1951	16,393	150.9	746.9	426.7	2,006.5
1952	16,632	146.1	732.9	436.8	2,045.2
1953	17,549	146.3	752.2	461.5	2,118.9
1954	16,314	130.0	692.2	425.0	2,005.9
1955	16,882	131.7	700.7	423.2	2,006.8
1956	17,243	129.3	719.1	439.4	2,042.5
1957	17,174	121.2	706.4	432.7	2,025.1
1958	15,945	113.2	665.7	389.2	1,871.2
1959	16,675	119.8	698.1	406.6	1,897.4
1960	16,796	119.7	698.0	407.2	1,883.4
1961	16,326	116.8	684.9	403.6	1,828.2
1962	16,853	118.9	687.6	418.3	1,842.9
1963*	17,005	115.7	664.9	421.9	1,809.7
1964*	17,302	115.2	647.9	418.8	1,807.3
Percentage of change:					
1947-64	+10%	-26%	-11%	0%	-1%

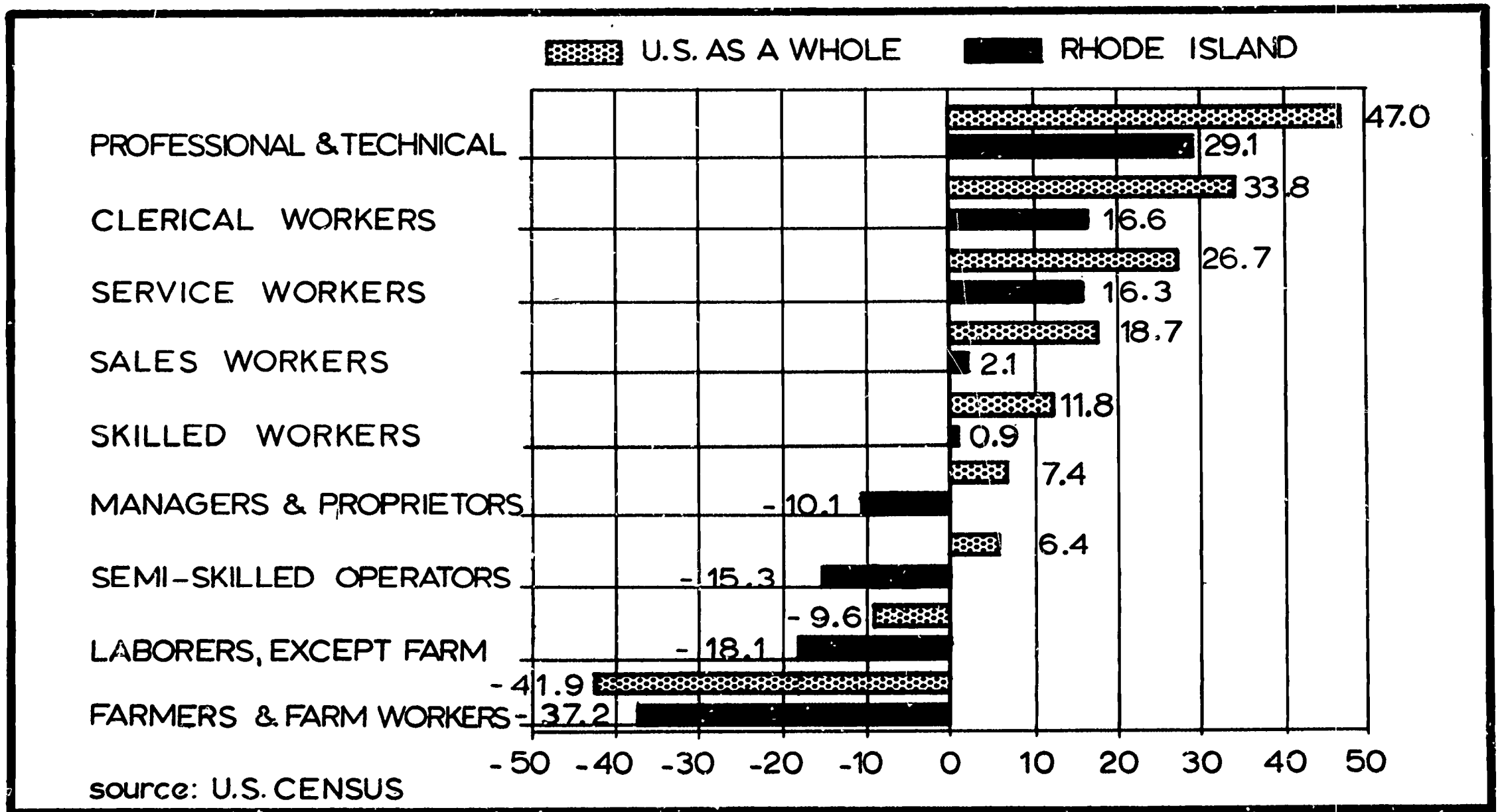
*11 months average

Source: U.S. Department of Labor - Manpower Report of the President, March 1965 and U.S. Department of Labor - Employment and Earnings, February 1965.



CHANGES IN MANUFACTURING EMPLOYMENT
IN RHODE ISLAND, 1947 - 1964

CHART 1



CHANGE IN PERCENTAGE OF EMPLOYMENT IN MAJOR OCCUPATIONAL GROUPS FOR THE DECADE 1950 - 1960

CHART 2

TABLE 2

AVERAGE ANNUAL INCOME OF PRIVATE NON-FARM
WAGE AND SALARY WORKERS EXCLUDING PRIVATE HOUSEHOLDS
1962

Area	Average Annual Income
Connecticut	$5,389
Massachusetts	4,811
New York	5,559
RHODE ISLAND	4,375
New England	4,827
United States	5,088

Source: U.S. Department of Labor - Manpower Research Bulletin #4, November 1963.

Another very important factor in the economic health of a state is the unemployment rate in the civilian labor force. Whereas the rate of unemployment in Rhode Island has declined over the past several years from 11.4 per cent in 1958 to 6.5 per cent in 1964, the rate is still significantly above the national rate and the rate in the neighboring states of Connecticut, Massachusetts, and New York. The unemployment rate for the years 1957 to 1964 for the United States, Connecticut, Massachusetts, New York and Rhode Island are shown in Table 3. Although the figures were compiled from different sources they are indicative of the variations in the rate of unemployment in Rhode Island and in some of the nearby states.

Population Trends in Rhode Island

The population trends in Rhode Island are also worth noting. The United States Census of 1960 reports that Rhode Island is the most densely populated State in the nation and second only to New Jersey in the percentage of its population classified as urban. Almost one-fourth of the population of the State now (1965) lives in Providence. The population of Providence and Pawtucket together represents about one-third of the total population of the State.

TABLE 3

PERCENTAGE OF AVAILABLE WORK FORCE UNEMPLOYED IN THE UNITED STATES, CONNECTICUT, MASSACHUSETTS, NEW YORK AND RHODE ISLAND, 1957 - 1964

Year	United States[1]	Connecticut[2]	Massachusetts[2]	New York[2]	Rhode Island[2]
1957	4.3	4.2	4.4	n.a.	9.1
1958	6.8	8.4	7.0	n.a.	11.4
1959	5.5	6.4	5.4	n.a.	7.6
1960	5.6	5.6	5.4	5.6	6.7
1961	6.7	6.7	6.0	6.2	7.8
1962	5.6	5.0	5.6	5.4	7.0
1963	5.7	4.9	5.8	5.6	7.1
1964	5.2	4.7	5.3	5.2	6.5

[1]United States Department of Labor Monthly Report on the Labor Force, February 1965.

[2]Employment Security Agencies in the respective states.

n.a. Data not available.

Although the population of the State has increased by nearly 15 per cent since 1950, the increase has been at a much slower rate than that of the United States as a whole and most of the neighboring states. It should be noted, however, that since 1960 the population increase in the State has accelerated to the point where the average annual percentage increase for the three-year period 1960-63 was 50 per cent larger than the average annual increase for the ten-year period 1950-60.

The average annual percentage increases in population for the United States, Connecticut, Massachusetts, New York, and Rhode Island for the periods 1950-60 and 1960-63 are shown in Table 4.

In an era of national and international dilemma because of the population explosion, a slower-than-average growth might not be a misfortune were it not for the fact that it reflects out-migration. The Rhode Island Department of Employment Security in its publication, Manpower Resources, 1962-1965, points out that had Rhode Island retained all its surviving population in the 1950-1960 decade, its population would have increased 94,700 instead of the actual figure of 67,600.

The age level which appears to have experienced a high degree of out-migration is of particular significance. During the decade, national figures show a decline in the 20-24 age group of 6.5 per cent and a drop in the 25-29 age group of 11.7 per cent. In contrast to the national figures, the Department of Employment Security reports that the 20-24 group in Rhode Island declined from 66,755 in the 1950 Census to 54,152 in the 1960 Census, a drop of 18.9 per cent. The 25-29 age group declined from 68,360 to 47,304 a loss of 30.8 per cent. The Department concludes that a major reason for heavy decreases in these age groups (and a somewhat lesser decrease in the 30-34 bracket) is out-migration in these segments of the State's labor force. Out-migration ordinarily means that people are moving to areas offering greater economic opportunity and may, therefore, be viewed as an important index of economic health.

TABLE 4

AVERAGE ANNUAL PERCENTAGE INCREASE IN POPULATION IN THE UNITED STATES, RHODE ISLAND AND NEIGHBORING STATES FOR 1950-60 AND 1960-63

Area	Average Annual Percentage Increase 1950-60	1960-63
United States	1.7	1.6
Connecticut	2.3	2.1
Massachusetts	0.9	0.9
New York	1.2	1.6
Rhode Island	0.8	1.2

Source:

U.S. Department of Commerce, Bureau of the Census, Population Estimates, Series P-25, No. 289, August 1964.

The conclusions to be drawn are that Rhode Island must strengthen both the manufacturing and non-manufacturing segments of its economy to absorb its unemployed, to raise its per-capita income, and to retain the younger segments of its labor force. This will happen only if present business enterprises grow, if underdeveloped enterprises such as the resort business are expanded, and if new business is induced to locate in the State. Not the only factor, but one of major importance, is an adequate pool of labor, educated and prepared for the skills requisite to an accelerated modern economy.

Education, therefore, plays a vital role in the economic development of the State and in the welfare of its residents.

Over the next two decades, according to the projections of the Rhode Island Development Council the population of the State is expected to increase from 897,500 persons in 1965 to 1,088,000 persons in 1985. This anticipated increase will represent a gain of 191,000 persons, or 21.4 per cent, over the twenty-year period. During that same period, while the population of the State is increasing, the populations of Providence, Pawtucket, Woonsocket and Central Falls are expected to decline and the populations of Cumberland, Cranston, and Warwick are expected to increase substantially.

In the remainder of this report, the consultants offer a long-range plan for the development and improvement of occupational and vocational-technical education in Rhode Island. The plan is designed to slow down and reverse some of the undersirable state-wide trends and provide a base for the development of an educational program that will equip the youth and adults of the State for a fruitful, happy and productive life.

To satisfy the needs of the future this proposed long-range plan is intended to:

1. Provide for both immediate and long-range state-wide needs for occupational and vocational-technical education.

2. Be easily adapted to future educational developments with a minimum of change and alterations.

3. Make fullest and most efficient use of existing facilities, provided they are educationally and structurally sound and reasonably well located.

4. Lend itself to rapid implementation leading to a satisfactory solution of the State's major educational problems in the shortest period of time.

5. Be financially feasible and make most effective use of available financial resources.

The proposed long-range plan as presented in the following sections deals with:

1. An expanded and enriched program of occupational education at the high school level.

2. An extensive program of vocational-technical education at the post-secondary school level.

3. An effective and continuous program of occupational training and retraining of out-of-school youth and adults.

II. OCCUPATIONAL EDUCATION IN THE SECONDARY SCHOOLS

The need to improve and expand occupational education at the secondary level is being felt throughout the United States. Rhode Island is not an exception. Some of the requirements of the economy of the State have already been cited. There is also the matter of human need, the requirements of people if they are to fulfill their potential and lead productive lives.

One or more of the consultants visited all the public high schools in the State. Information collected on those visits together with data compiled by the State Department of Education revealed the situation. In June 1964, 8,243 students were graduated from the public high schools in Rhode Island (including the Vocational-Technical School at Corliss Park). Administrators and guidance counselors of these schools estimated that 58 per cent, or 4,800 of the graduates did not go on to any program of advanced study or training. During the same year, 2,122 students were graduated from the Catholic high schools. If the same percentage applies, 1,200 of these students did not continue their education.

Of this total of approximately 6,000 graduates from Rhode Island high schools, a few girls probably married immediately and some boys joined the Armed Services, but certainly 5,000 or more of these young graduates entered the labor market, many of them without adequate training for successful job placement.

Table 5 shows the number of 12th grade public school pupils enrolled in federally reimbursed vocational programs during the school year 1963-1964.

A review of the table shows that only 1,154 of the approximately 5,000 high school graduates entering the labor market were enrolled in reimbursable occupational courses. Actually, 596 of these pupils were girls enrolled in Home Economics courses where the major emphasis was on the improvement of home and family life rather than on preparation for a job.

Enrollment in Business Education is not included in Table 5, but even if the estimated 2,000 pupils enrolled in these courses were included, the total number of Rhode Island youth receiving occupational education was pitiably small for an industrial state.

TABLE 5

NUMBER OF TWELFTH GRADE PUPILS ENROLLED IN OCCUPATIONAL PROGRAMS [1]
Rhode Island, 1963 - 1964

		Agriculture	Auto Mechanics	Drafting	Electricity	Electronics	Machine Shop	Printing	Sheet Metal	Textiles	Woodworking	Painting and Decorating	Dressmaking	Distributive Education	Home Economics	Medical Secretary	TOTALS
Area	Rhode Island Voc. & Tech. School		16		6	19	22				24						87
1	Woonsocket						13				8				30		51
	N. Smithfield																
	Cumberland		11		12						4						27
	Smithfield																
	Lincoln																
	Central Falls		4		4		10	4			6						28
	Pawtucket		4		10		16	6	7	2	4						49
2	Burrillville																
	Glocester)																
	Foster)	13															13
	Scituate	18															18
3	N. Providence														35		35
	Providence		11	11	6	11	13	10	3		17	2	8	18			110
4	Johnston																
	Cranston	27												45		10	82
5	E. Providence	5													121		126
	Barrington														18		18
	Warren	9						13							20		42
	Bristol														12		12

TABLE 5 (continued)

NUMBER OF TWELFTH GRADE PUPILS ENROLLED IN OCCUPATIONAL PROGRAMS[1]

Rhode Island, 1963 - 1964

		Agriculture	Auto Mechanics	Drafting	Electricity	Electronics	Machine Shop	Printing	Sheet Metal	Textiles	Woodworking	Painting and Decorating	Dressmaking	Distributive Education	Home Economics	Medical Secretary	TOTAL
6	Warwick	4													72		76
	W. Warwick		16												24		40
7	Coventry	16													81		97
	W. Greenwich																
	E. Greenwich														21		21
	Exeter																
	N. Kingstown	14													14		28
8	Portsmouth																
	Middletown																
	Tiverton														14		14
	Little Compton																
	Jamestown																
	Newport		6			4	6	7			6	6			79		114
9	Hopkinton)														16		27
	Richmond)	11															
	Charlestown)																
	Narragansett														26		26
	S. Kingstown														13		13
	Westerly																
TOTAL		117	68	11	38	34	80	40	10	2	69	8	8	63	596	10	1,154

Source: Rhode Island State Department of Education

Note: This Table includes only those programs which were federally reimbursable during 1963-1964 under the Smith-Hughes and George Barden Acts. It does not include Business Education which was not reimbursable in 1963-1964 but will be henceforth under the Vocational Education Act of 1963. Industrial Arts are not included because they are not considered vocational.

[1]Includes part-time cooperative programs.

Taking a different perspective, only 352 pupils or roughly 7 per cent of those entering the labor market from the public high schools had received specialized training for occupations directly related to manufacturing. Granting that some students from the better Industrial Arts programs were acceptable to industry, the 7 per cent figure still seems small in a State in which 40 per cent of the labor force is employed in manufacturing.

But this is not the whole story. It does not include drop-outs, boys and girls who leave high school before graduation. An accurate figure on drop-outs is almost impossible to obtain and can be determined only by a follow-up of each individual pupil since the factors of in-migration and out-migration are involved. The Research Division of the Rhode Island State Department of Education has made two studies during the past few years in an effort to determine the number of pupils who leave school before graduation. One study reveals an average of 30 per cent and the other, 20 per cent. Accepting the lower figure, it may be assumed that in the year 1963-64 over 2, 500 public and Catholic school pupils left high school before graduation. It is safe to say that most of these young people sought employment without preparation for anything beyond the rapidly diminishing category of unskilled jobs. It also seems safe to say that when these young people reach a higher degree of maturity and understand the disadvantages of an inadequate education, many of them will enroll in afternoon and evening courses adapted to their needs provided such opportunities are readily available.

The Task of the High School

It has been amply demonstrated over the years that making minor changes and tinkering with existing educational structure will do little to bring about needed changes in educational programs. There is a great need for major changes in both the organization and the instructional programs of the high schools of Rhode Island, and practically every other state, if they are to meet the occupational needs of today's and tommorow youth.

Among the major tasks and responsibilities of the secondary schools in the years ahead the consultants see the following:

1. The task of the high school includes the preparation of some pupils for entrance into college; the preparation of others for entrance into post-secondary vocational education programs; and the preparation of still others for immediate entrance into the labor market upon completion of high school. The first group is served by the traditional college preparatory curriculums. The second group should be provided with opportunity for exploratory and basic occupational education while in high school, with specific vocational-technical education provided in the post-secondary institution such as the community college or technical center. The third group should be given opportunity for specialized occupational education while still in high school.

2. All high school occupational education programs should provide appropriate balance between occupational courses and general education courses, and should take into account the need of the pupil for preparation for change as well as for immediate entrance into the labor market.

3. The quality of the occupational education program provided in the high schools should be sufficiently high to merit recognition on a par with college preparatory programs. This demands well-equipped shops and laboratories, well trained teachers, and capable supervisory service.

4. Special attention should be given to occupational education programs for girls. Traditionally such programs have been most common in business and office occupations. However, women are increasingly being employed in a wide variety of occupations outside the field of business. Where feasible, the overall curriculum should include programs in such fields as cosmetology, the needle trades, the jewelry industry, the foods trades, and others, especially those where home economics skills are needed.

5. The state-wide program of occupational education on the high school level should include appropriate program offerings in all high schools, small as well as large. In the small schools the occupational education program will of necessity be limited; in the larger schools the offerings will cover a considerable range.

6. Programs in business and office education will find a place in most high schools, but of more limited scope in the smaller schools as compared with the larger ones. Programs in the sales field will also find a place in many high schools. Both business and sales programs lend themselves to cooperative part-time work experiences in which the pupil is in school for half the day and at work for the other half-day in an occupation that provides appropriate pay and learning experiences.

7. Cooperative part-time work experience programs in other diversified occupations, such as in the industrial and service fields, should find an important place in the occupational program of most high schools. This is especially true for pupils in the 11th and 12th grades.

8. The overall scope of the program for a high school pupil who plans to go to work at the completion of high school should include orientation or exploratory work as a part of the 9th grade industrial arts program, basic instruction underlying a cluster or group of occupations in the 10th grade industrial arts program, and specialized occupational instruction in the 11th and 12th grades.

9. Curriculum patterns for the specialized instruction in the upper grades should provide appropriate time allocation to the development of shop and laboratory skills; to the acquisition of needed understanding of mathematics, science, and art related to the occupation; and to the general education needed by a citizen in a democracy. The time allocated to shop

9. (continued)
work in some industrial programs may be as much as half the school day but this would be in keeping with the needs of the occupation as shown by careful analysis.

10. Occupational education for farming should be provided in rural high schools to the extent required to meet the decreasing needs for farm workers. Programs in agricultural-related occupational fields, such as agri-business, should be made available in areas which can show sufficient placement opportunity for graduates to warrant the establishment of the programs.

11. Each high school pupil is an individual, and his program should be planned on the basis of a careful study of his needs, abilities, and aspirations.

12. Adequate vocational guidance, with highly trained counselors, is essential to the success of an occupational education program. Such service should precede the enrollment of the pupil in the occupational program, probably starting as early as elementary school and continuing until early adulthood or at least until an acceptable adjustment has been made to a job situation.

13. In accordance with provisions of the Vocational Education Act of 1963, special attention should be given to the needs of high school youth with socio-economic or other handicaps that tend to make them drop out of school. Included in the program to meet the needs of such youth are short, intensive occupational courses of types and levels specifically designed to prepare these pupils for job placement before they leave school.

14. High school programs designed to prepare pupils for entrance into specialized occupational programs in post-secondary institutions should be closely articulated with those programs in the same manner as college preparatory programs are now articulated with college entrance requirements.

The Comprehensive High School

In the opinion of the consultants, the future of occupational and vocational-technical education both at secondary and post-secondary school levels resides in comprehensive rather than specialized institutions. Education for the world of work is part of the main stream of education; it cannot realistically be separated from general education and is too important to be shunted into a separate compartment. The case for the comprehensive high school has been made in a separate report of this series.

Rhode Island must look ahead not backward; judgments must be in terms of the future, not the past. The viewpoint of the consultants on the issue of the comprehensive high school versus the separate vocational school is not based upon the past performance of the academic high schools of Rhode Island and elsewhere, many of which have traditionally oriented themselves to college preparation. Rather it is based upon the pervasive recognition of the importance of occupational and vocational-technical education to the youth entering the space age. The high school can no longer neglect the life needs of a majority of the pupils. The new high school must make a massive effort in occupational and vocational education. Occupational education must become fully accepted on a par with college preparation. The comprehensive high school of tomorrow must accept its responsibility and become truly comprehensive. It must search out ways of providing the quality of occupational education that will meet the needs of the individual and society. It must also provide a diversity of program along with remedial and pupil personnel services to meet the needs of potential drop-outs.

The point of view of the consultants favoring the comprehensive high school over the separate vocational school is not entirely philosophic and esoteric. The following are a few examples of comprehensive secondary schools that embrace good occupational and vocational-technical programs:

Batavia High School, Batavia, New York
Central High School, Tulsa, Oklahoma
Joliet Township High School, Joliet, Illinois
Miami Central High School, Miami, Florida
Mount Pleasant High School and Linton High School, Schenectady, New York

Mount Vernon High School, Mount Vernon, Illinois
Mount Vernon High School, Mount Vernon, New York
North High School and Central High School,
Binghamton, New York
Sewanaka High School, Floral Park, New York
Utica Free Academy, Utica, New York

Area Comprehensive High School

Recognizing that all schools cannot justify a full range of occupational subjects in terms of either numbers or cost, the Vocational Education Act of 1963 makes provision for area vocational schools. As applied to a high school, an "area vocational school" must have a department which is used "exclusively or principally for providing vocational education in no less than five different occupational fields to persons who are available for full-time study in preparation for entering the labor market . . . if it is available to all residents of the State or an area of the State designated and approved by the State Board . . ."

In addition to federal support of vocational programs (now including Business Education) enjoyed by all schools under the provisions of the State Plan, area schools also may receive support for construction including "construction of new buildings and expansion, remodeling, and alteration of existing buildings . . . and site grading and improvement and architect fees."

The consultants recommend that the State Board of Education in order to make diversified occupational offerings of high quality available at the high school level to all youth of Rhode Island designate certain present or planned comprehensive high schools as area schools and define the general geographic areas which they are to serve. Such designated schools, in order to meet the provisions of the Vocational Education Act of 1963 for federal reimbursement, must provide occupational programs in at least five fields. They must also accept qualified students from other districts within their areas or other parts of the State if the occupational education needs of those students cannot be met in their local schools. Tuition for such pupils should be paid by their home district.

It is recommended as general policy that pupils from other districts become full-time members of the area comprehensive high schools, as contrasted with attendance at

these schools on a part-time basis. This procedure provides the greatest flexibility of schedule, assures the best program of related subject matter, eliminates certain transportation problems, avoids splitting the allegiance of pupils between two schools. However, sufficient flexibility of this policy should be maintained to make exceptions for pupils in special circumstances upon the recommendation of guidance counselors.

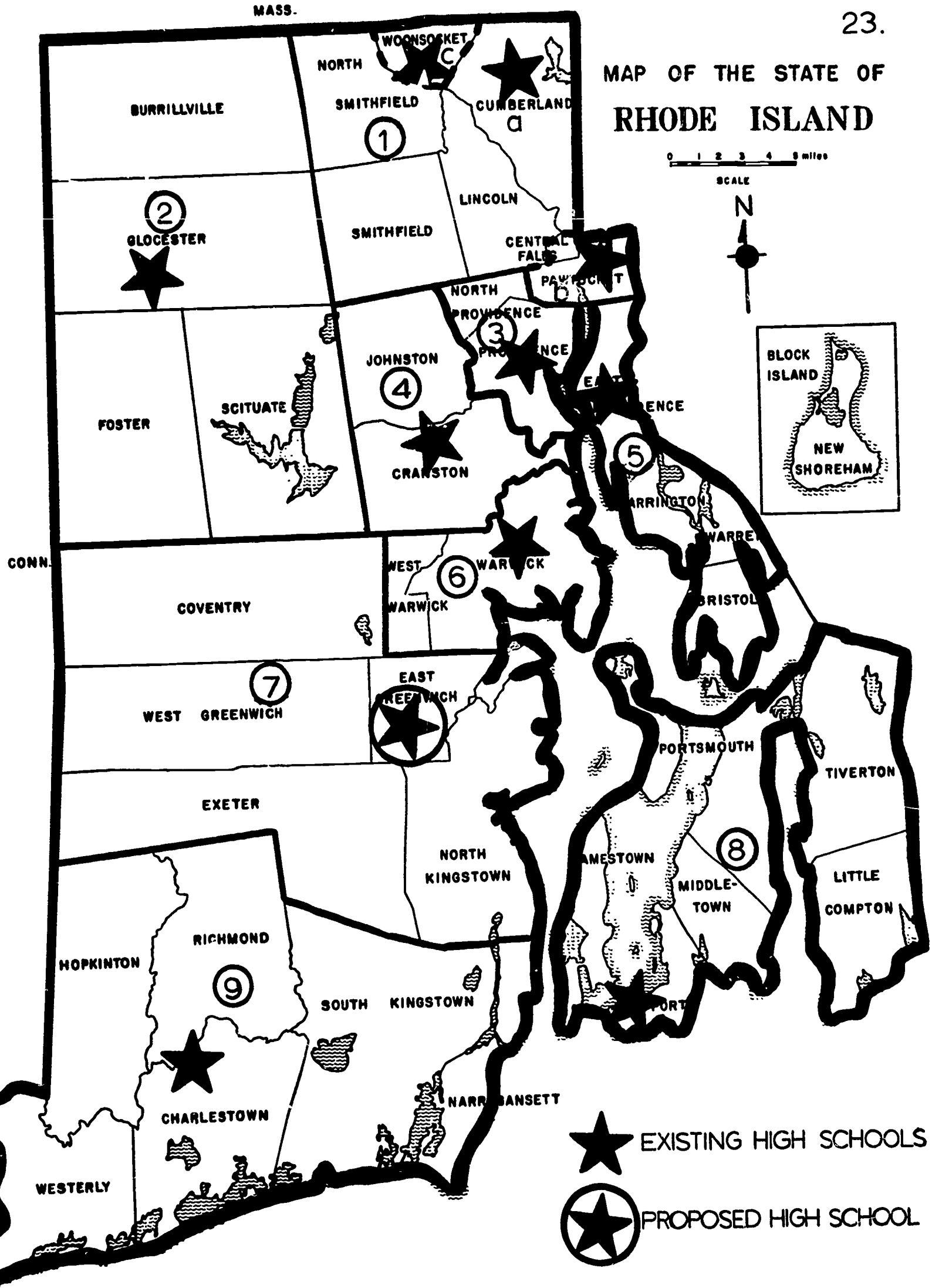
To provide incentive for the development of the area comprehensive high schools, it is recommended that the State Board of Education provide some financial assistance for construction of occupational and vocational facilities at the area schools from the $10,000,000 now available from State funds. This incentive might well be above and beyond the reimbursable sum from the federal government.

All thirty-nine of the local high school districts were visited by one or more staff members of the Institute of Field Studies of Teachers College, Columbia University. Conferences were held with superintendents, principals, and vocational educators. Studies were made of enrollment trends and facilities. Based upon this information plus present and projected school district populations, similarities in area characteristics, and transportation, the consultants recommend that the State Board of Education designate the area comprehensive high school districts, as shown on Map 1. The stars on Map 1 indicate the suggested area schools as listed below:

Area I	(a) Cumberland	Area V	East Providence
	(b) Pawtucket	Area VI	Warwick
	(c) Woonsocket	Area VI	East Greenwich (new school)
Area II	Foster-Glocester Regional	Area VIII	Newport
Area III	Providence	Area IX	Chariho Regional
Area IV	Cranston		

The projected 1980 populations and enrollments to be served by these area schools are listed in Table 6.

It is obvious that the occupational offerings of each area comprehensive high school will not be the same. Whereas local needs should be considered, it must also be borne in mind that Rhode Island is a small State and workers can both commute and migrate. There is, therefore, some commonality of need.



MAP OF THE STATE OF

RHODE ISLAND

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SCALE

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SUGGESTED LOCATIONS OF AREA SCHOOLS

MAP 1

TABLE 6

POPULATION AND PUBLIC SCHOOL ENROLLMENT IN SUGGESTED AREA COMPREHENSIVE HIGH SCHOOLS IN RHODE ISLAND

1964 - 1980

Districts Comprising Area	Population		Enrollment Grades K-12[1]	
	1964	1980	1964	1980
Area I				
Woonsocket	46,200	45,750	6,152	7,257
North Smithfield	8,445	12,800	1,291	2,226
Cumberland	21,460	34,400	4,405	6,877
Smithfield	10,590	15,300	1,722	2,679
Lincoln	14,365	18,090	2,699	4,054
Central Falls	18,930	17,870	2,340	2,805
Pawtucket	80,040	77,650	11,525	12,162
Total	200,030	221,860	30,134	38,060
Area II				
Burrillville	9,220	10,000	1,623	1,756
Glocester)	3,725	5,470	) 1,523	1,122
Foster)	2,360	3,630	)	633
Scituate	5,875	9,020	1,467	1,937
Total	21,180	28,120	4,613	5,448
Area III				
North Providence	19,870	25,650	3,348	5,375
Providence	195,350	177,800	27,666	27,873
Total	215,220	203,450	31,014	33,248
Area IV				
Johnston	18,900	26,000	3,562	5,430
Cranston	71,100	90,110	12,372	15,854
Total	90,000	116,100	15,934	21,284
Area V				
East Providence	44,345	56,720	8,003	10,063
Barrington	16,450	23,150	4,235	4,217
Warren	8,805	9,500	1,976	1,647
Bristol	15,350	20,310	2,406	3,891
Total	84,950	109,680	16,620	19,818

TABLE 6 (continued)

POPULATION AND PUBLIC SCHOOL ENROLLMENT IN SUGGESTED AREA COMPREHENSIVE HIGH SCHOOLS IN RHODE ISLAND

1964 - 1980

Districts Comprising Area	Population 1964	Population 1980	Enrollment Grades K-12[1] 1964	Enrollment Grades K-12[1] 1980
Area VI				
Warwick	77,170	92,880	16,296	16,361
West Warwick	22,275	25,590	2,885	4,452
Total	99,445	118,470	19,181	20,813
Area VII				
Coventry	18,335	27,740	3,921	4,814
West Greenwich	1,340	2,190	264	398
East Greenwich	6,775	12,000	1,857	2,081
Exeter	2,500	3,640	352	633
North Kingstown	20,890	28,260	4,186	4,923
Total	49,840	73,830	10,581	12,849
Area VIII				
Portsmouth	9,070	12,920	2,072	2,425
Middletown	15,290	24,470	3,764	4,253
Tiverton	11,485	17,600	1,200	3,077
Little Compton	1,750	2,180	390	380
Jamestown	2,360	3,010	417	525
Newport	48,775	50,170	5,794	8,723
Total	88,730	110,350	13,637	19,383
Area IX				
Charlestown)	2,180	3,370	)	597
Hopkinton)	4,415	5,960	) 2,329	1,032
Richmond)	2,125	2,720	)	471
South Kingstown	13,950	20,200	2,634	3,511
Narragansett	4,085	6,600	696	1,158
Westerly	16,330	19,000	3,234	3,312
Total	43,085	57,850	8,893	10,081

1 1964 Enrollment figures for some districts do not include secondary school pupils cared for by receiving districts. However the 1980 enrollment figures include all public school pupils in grades K-12 for each district.

Each area comprehensive high school in setting up its program should draw heavily on the advice and wisdom of a local advisory committee.

The suggestion of area comprehensive high schools does not imply that other high schools should not retain their present programs or even develop new programs in occupational education if they can be justified in terms of numbers of students and expense. Such programs would remain reimbursable under the provisions of the present State Plan. The concept of area comprehensive high schools is designed to make available to Rhode Island youth a wide range of occupational education much broader in scope than most local districts could support alone.

III. VOCATIONAL-TECHNICAL EDUCATION AT THE POST-SECONDARY LEVEL

It is scarcely necessary to document the need for vocational-technical education at the post-secondary level in Rhode Island. Aside from programs at the Roger Williams Junior College and a number of specialized proprietary schools, little is now being offered.

Industry seeks trained technicians to take the strain off its too few engineers. Computers and data processing require specially trained people. The developing para-medical field calls for increasing numbers of technicians. There are growing demands for highly trained secretaries in specialized fields. The resort industry has great potential for Rhode Island, but demands special skills in hotel, motel and restaurant management. These are but a few examples of expanding occupational groups that require substantial education beyond the secondary school level. All projections for the future indicate that the greatest increase in jobs will occur in occupations that require advanced levels of education and training. If Rhode Island is to compete for new business and industry, it must have available personnel with the necessary skills.

There can be little doubt that the trend in the United States is toward free or inexpensive public education at the 13th and 14th grade levels. The expansion and success of the California system of two-year colleges is perhaps the best evidence. It is interesting to note that despite a reputable transfer program about one-third of the 355,000 students in these California institutions in 1962 were enrolled in occupationally oriented courses.

Of the more than 5,000 graduates of Rhode Island high schools in June 1964 who did not go on to advanced education it is reasonable to believe that a large percentage were capable of further education and would have taken advantage of it if the opportunity had been available to them. The swelling number of applicants for Rhode Island's Junior College attests the need.

For these reasons the consultants recommend that a major portion of the $10,000,000 now available from State funds for the development of vocational-technical facilities be devoted to the construction of post-secondary schools.

The Comprehensive Junior College - Vocational-Technical Center

Consistent with their philosophy of favoring occupational education in comprehensive high schools rather than specialized vocational schools, the consultants hold the same point of view for the post-secondary level; Comprehensive Junior College - Vocational-Technical Centers.

Unfortunately, many states find themselves in the dilemma of coping with specialized technical institutes, two-year community and junior colleges, and state colleges and universities all offering occupational and vocational-technical programs of various sorts. Frequently these programs are controlled by different boards and the result is duplicated facilities and competition for both programs and funds. The development of an intelligent and economical master plan under these circumstances is close to impossible. California is an exception to much of this because the local junior colleges do the job.

Fortunately, Rhode Island is not beset by the problem of established and competing institutions. It has a unique opportunity to avoid the difficulties of many other states if it effects the closest possible coordination between its junior college program and its post-secondary vocational-technical programs. A way should be sought to bring these programs together under one administrative leadership in order to avoid the question of who does what, to eliminate duplication of facilities, and to provide a framework for a sound long-range plan for development of two-year post-secondary programs. Under such a plan, parking lots, libraries, athletic facilities, and dining halls could be used in common. Many shops and laboratories could be made available for both the junior college program and the vocational-technical program. Guidance services could be used jointly and teachers could be given assignments in both areas. The joint planning and operation of facilities would provide the greatest flexibility, the most economical use of available financial resources, and the most effective programs for the youth and young adults of the State.

It must be realized that interests, motivations, and aspirations of youth change. Some who enter a terminal vocational-technical program may develop sufficient academic interest and ability to be shifted to a program leading to the university and a degree. On the other hand, those who find difficulty with the academic requirements of the transfer program may be guided and encouraged to shift to the vocational-technical program. The complex of a Junior College - Vocational-Technical Center offers the best answer in terms of economy and flexibility. And, it also provides the important prestige factor so much needed by those enrolled in terminal occupational and vocational-technical programs.

The Board of Trustees of State Colleges is now developing plans for a junior college in Warwick and expects in the future to build a facility north of Providence and another in the Mount Hope area. In the opinion of the consultants, these are ideal locations for centers of vocational-technical education. The State Board of Education has already moved toward acquisition of a site in the greater Blackstone Valley area north of Providence and stands ready to participate in the Warwick facility. Thus, location of joint facilities provides no serious problem.

The consultants feel strongly that the long-range solution to the problem of vocational-technical education at the post-secondary level in Rhode Island lies in the development of three unified Junior College - Vocational-Technical Centers at the locations designated above. For the sake of economy and efficiency, these centers should be operated as single entities under a single administrative head.

Post-secondary vocational-technical education is the concern of two Boards, the Board of Trustees of State Colleges and the State Board of Education.

The Board of Trustees in its Report on Community Colleges to the General Assembly at its January Session 1960, specified vocational and technical programs as one of the objectives of the Junior Colleges. This Board is eligible for federal support of its programs in science, engineering, and related technologies under the Higher Education Facilities Act of 1963.

Under the Vocational Education Act of 1963, the State Board of Education is eligible for federal support for a wider scope

of occupational and vocational-technical programs not leading to a baccalaureate degree.

In the opinion of the consultants the resolution of the problem of bringing the Board of Trustees of State Colleges and the State Board of Education together in support of unified Junior College - Vocational-Technical Centers resides in a provision in the Vocational Act of 1963. This provision states that federal funds available under the Act may be used to support a "department or division of a junior college or community college or university which provides vocational education in no less than five occupational fields, under the supervision of the State Board, [1] leading to immediate employment but not leading to a baccalaureate degree."

The consultants believe, therefore, that the most satisfactory solution to the development of post-secondary programs in Rhode Island would be for the State Board of Education to contract with the Board of Trustees of State Colleges for the administration and operation of programs in vocational-technical education.

Conversations with the Assistant Commissioner for Vocational-Technical Education, United States Office of Education, indicate that a contractual arrangement would be acceptable provided that the United States Office of Education deals only with the State Board of Education for the total State program and that the State Board of Education retain responsibility for seeing that the provisions of federal legislation are carried out. The United States Office of Education reports that substantially the same arrangement is in practice in several states including Arizona, Iowa, Minnesota, Mississippi, and North Dakota.

Under the contract arrangement, the State Board of Education can hold title to property involved and contract for instruction and administration. It can maintain its necessary supervisory function through the terms of the contract and through inspection of the programs by an official of the State Department of Education. Under these terms the State Board may be reimbursed from federal funds for both construction and the operation of the program under the Vocational Education Act of 1963.

Chart 3 shows an arrangement which the consultants believe would provide a reasonable basis for the planning, administration and operation of post-secondary - vocational-technical programs in Rhode Island.

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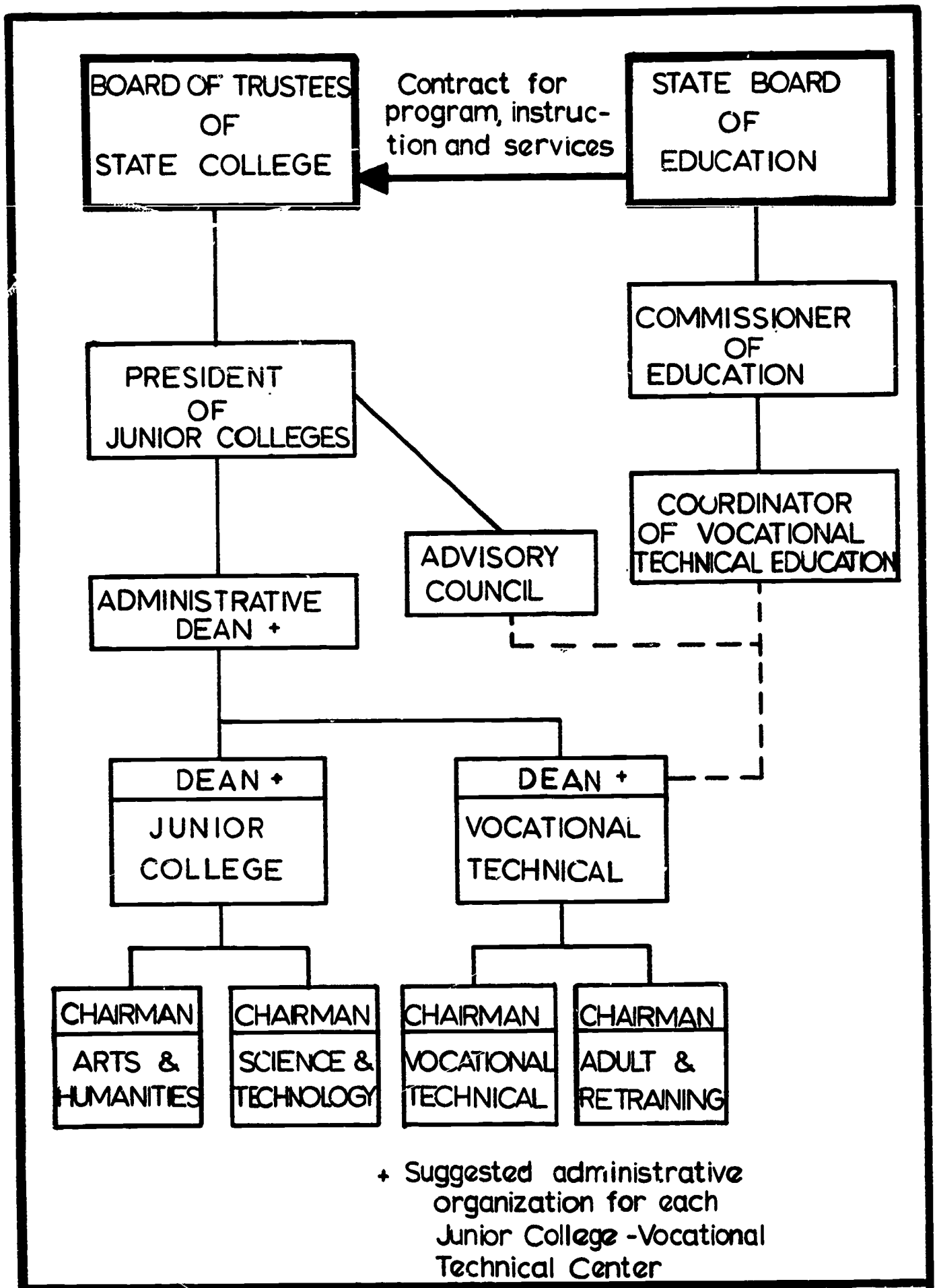
[1] The definition of "State Board" under the Vocational Education Act of 1963 is the State Board of Vocational Education, which in Rhode Island is synonymous with the State Board of Education.



SUGGESTED ARRANGEMENT FOR THE DEVELOPMENT OF POST-SECONDARY VOCATIONAL-TECHNICAL EDUCATIONAL PROGRAMS IN RHODE ISLAND

CHART 3

IV. VOCATIONAL EDUCATION FOR OUT-OF-SCHOOL YOUTH AND ADULTS

In the past a person pursued a course of education, met its requirements, and then considered that he had life preparation for his chosen field of work. No longer can this concept of terminal education exist. The rate and nature of modern technological change means life-long education and occupational retraining. The Department of Labor projects that a worker will shift occupations five or six times in the course of his career.

Leaving aside the natural aspirations of people to better themselves, so well illustrated by the huge enrollments in university extension courses and in adult education programs, two new factors become obvious:

1. Many workers will lose their employment because their skills will become obsolete. These people will have to be retrained in new and saleable skills.

2. Most workers will be faced with acquiring additional knowledge and understandings as the requirements of their occupation change. New machines, new processes, new methods are the essence of the technological era. Upgrading will become a necessity and larger enrollments in evening and part-time courses in vocational-technical programs can be expected.

Although difficult to chart in detail, it is clear that diversified retraining, up-dating, and up-grading occupational programs for out-of-school youth and adults ranging from a few weeks to years in length must become components of the educational service rendered by the comprehensive high schools and the post-secondary centers. Late afternoon and evening programs will become an indispensable part of their service.

The district high school will utilize its industrial arts shops, its science laboratories, its business education facilities and equipment for youth who have left school early

or otherwise need to acquire specialized job skills to find a place in the labor market.

The area comprehensive high school will offer more sophisticated and diversified programs in its shops, drafting rooms, laboratories, and business education centers for purposes of up-dating, up-grading and retraining. It will also provide needed preparation for those who wish to go on to post-secondary education and are as yet unprepared for it. And, in addition, it will probably provide considerable vocational guidance for out-of-school youth and young adults.

The post-secondary programs in the Junior College - Vocational-Technical Centers will provide many different types of offerings for adults and youth. There will be intensive courses of short duration to teach people the skills required to operate new machines or to learn new processes. In contrast there will be evening programs extending over several years enabling employed people to qualify for an associate degree. Such candidates will comprise a heavy portion of the load.

Out-of-school youth and adults will require the full use of the local high schools, the comprehensive area high schools, and the post-secondary centers. In addition, on-the-job training and retraining programs in industry will need to be expanded if workers are to meet the demands of a dynamic technology.

V. CORLISS PARK VOCATIONAL - TECHNICAL SCHOOL

It is recommended that the Vocational -Technical High School of Rhode Island at Corliss Park be converted into an adult vocational-technical education center designed and equipped to meet a wide variety of the occupational needs of out-of-school adults. While it would carry on a regular program, the center should also be flexible and capable of adapting to changing needs. Some of its programs would be offered only at intervals or in response to known demand.

The center should be developed to accommodate programs of the following types:

1. Courses sponsored by the Manpower Development and Training Act and the Area Redevelopment Act.

2. Classes for training or retraining persons who do not appropriately fit into the high school or post-high school programs.

3. Courses that require heavy and expensive equipment not available in the area high schools.

4. Programs to meet the needs of present industry in the State as well as new industry locating in Rhode Island.

5. Instruction in shops and related work for apprentices.

Here also should be located a research and experimental center for occupational and vocational-technical education, including an instructional materials laboratory. The purpose should be to experiment with new courses, methods, techniques, materials, and equipment. Better methods of meeting the requirements of modern occupational education is a national problem as is evidenced by the fact that 10 per cent of the annual appropriation of the Vocational Act of 1963 is reserved for research.

A research and experimental center in the setting of a flexible instructional program should become an important resource in the education of teachers of occupational education.

VI. SUMMARY OF RECOMMENDATIONS

In developing the broad outlines of a long-range plan for developing and improving occupational and vocational-technical education in Rhode Island, the consultants have thought in terms of the future as well as the present; in terms of 1980 as well as 1965. Past performance and present status of the various educational institutions, economic activity, and sociological factors have been considered valuable only insofar as they served to point out the shape of the future. This is a plan designed to serve the next generation, one flexible enough so that it can be adapted to new times and new conditions by the generations still to follow. In broad terms, the consultants have recommended:

1. that an expanded and articulated program of occupational and vocational education be established at both the secondary and post-secondary levels.

2. that traditional curricula be radically altered to meet the rapidly changing needs of the economy and of society.

3. that all secondary schools recognize occupational education as an objective equal in importance to college preparation and, therefore, give it realistic attention and status.

4. that certain larger comprehensive high schools be designated and supported as "area schools," that these schools provide a broad scope of occupational education for their own students, and that they encourage the enrollment of pupils from other districts with more limited programs on a tuition basis.

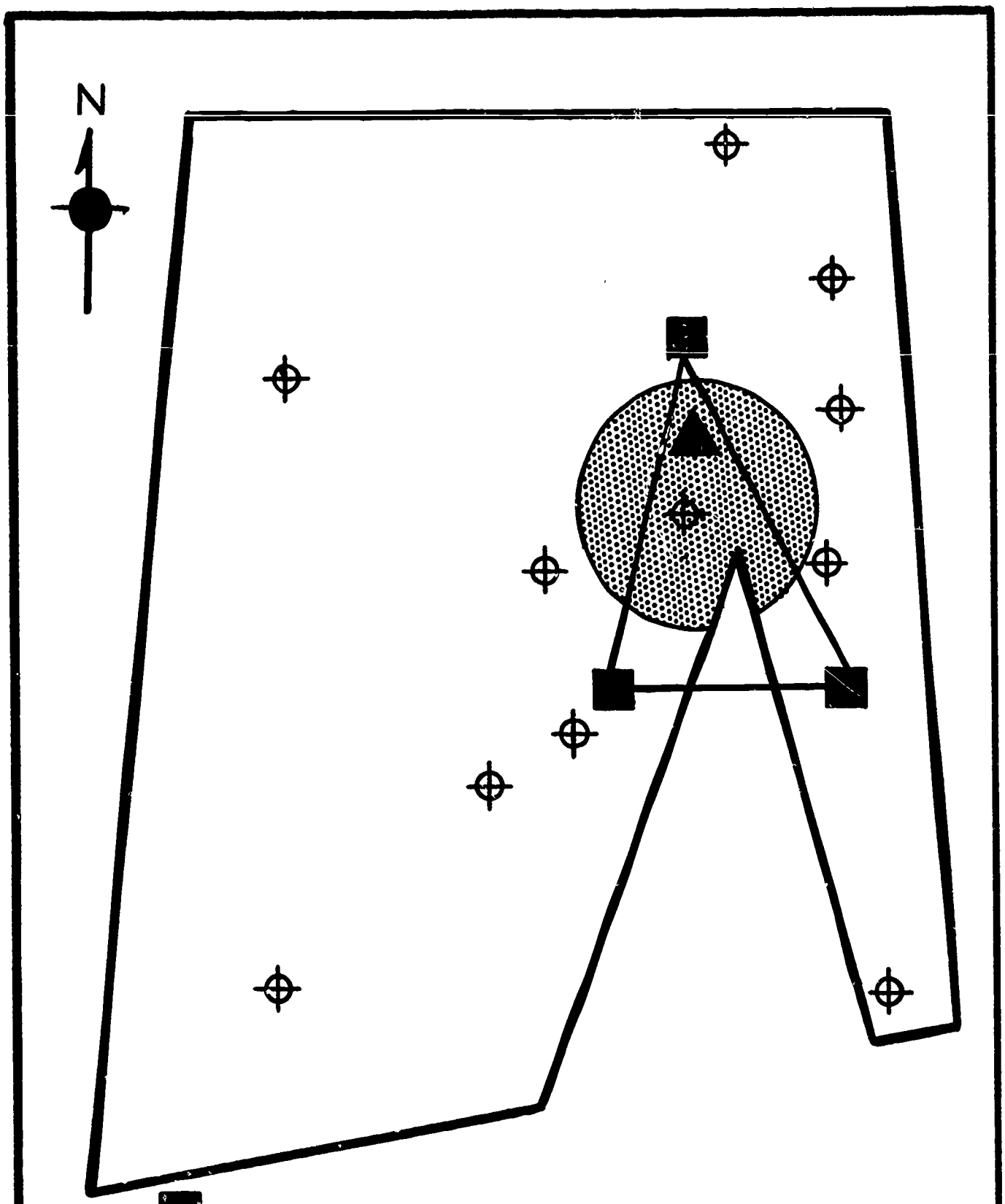
5. that a strong program of post-secondary vocational-technical education be developed and integrated under contractual arrangement with the Junior College programs in the Warwick, Blackstone Valley and Mount Hope areas.

6. that all occupational and vocational-technical resources of the State be utilized for diversified types of programs to meet the needs of out-of-school youth and adults.

7. that Corliss Park be developed as a center for the training and retraining of adults, as an instructional materials and research center for the development and testing of materials and procedures in vocational-technical education, and as a laboratory for the training of vocational-technical education leaders.

A suggested distribution of the proposed major vocational-technical education facilities in Rhode Island is shown on Map 2 in schematic form. The circular area on the map represents the urban area in and around Providence. The squares on the map represent the three proposed Junior College - Vocational-Technical Centers. The smaller dots on the map represent the proposed comprehensive area high schools.

In conclusion, the consultants believe that the long-range plan outlined in this report is flexible, adaptable, and psychologically and sociologically sound. It is a plan for tomorrow-not yesterday.



A SUGGESTED DISTRIBUTION OF
MAJOR VOCATIONAL-TECHNICAL FACILITIES IN
RHODE ISLAND

MAP 2